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ABSTRACT

This study analyzed overlap (or interruption behavior) in conversations between mothers and their stuttering children to determine how overlap relates to fluency. Subjects for the study, which is part of the Genesis of Stuttering Project, were 20 preschool stuttering children and their mothers. Three forms of overlap were examined: simultaneous start, the parent or child as interruptee, and the parent or child as interruptor. Both subjects and control group children demonstrated more disfluency during overlapped utterances than nonoverlapped utterances. Most disfluency and stuttering occurred during overlap rather than immediately preceding or following it. There were no differences by sex. Mothers of stutterers interrupted their children's dysfluent speech significantly less than did the mothers of nonstuttering children, and there were no differences between the mothers during fluent speech. It is concluded that the data do not support the contention that stuttering/dysfluency evokes overlap or interruption, but overlap does appear to evoke stuttering/disfluency for both stuttering and nonstuttering children. (Five references) (JDD)

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INTERRUPTION IN CONVERSATIONAL DYADS BETWEEN MOTHERS AND THEIR PRESCHOOL STUTTERING AND NONSTUTTERING CHILDREN

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Background

Interruption in conversation has long been assumed to cause fluency problems for young developing speakers, especially for children who stutter. Some researchers (Egolf et al, 1972) have suggested that parents are one of the most potent agents in the acquisition and maintenance of stuttering. Others, who have studied the interactional and bidirectional behavior between child and parent (notably Meyers and Freeman, 1985) have not able to substantiated this view. Interruption, which is a correlate of conversation among those of all ages, is most often considered to be a detriment and counterproductive to ongoing interaction. Further, it has been assumed that parents interrupt children more than children interrupt their parents (confirmed by Bedrosian et al, 1988), and that overlap functions primarily in a negative manner, or at least demonstrates parental power and control.

"Overlap" is a term "I" prefer to use, since it captures all interruption behavior without assigning "blame". Overlap refers to all instances when two speakers are speaking at the same time. An important consideration in studying overlap is to look at how interruptive a particular overlap is. This may be related to how long it lasts, where in an utterance it occurs, and what the content or intent is, e.g., is it a topic change or is it merely acknowledging the other speaker.

Overlap may be divided simply into 3 categories: (1) "simultaneous start" which is when both speakers start to speak at the same time; (2) "interruptor" which refers to the speaker who starts to speak after the second person has started; and (3) "interruptee" which refers to the speaker who already has the floor when the second speaker starts to speak. It was the purpose of this study to compare and contrast interruption/overlap behavior of preschool stutterers and nonstutterers in mother-child dyadic conversations to determine how interruption relates to fluency.

Methods

These data were compiled as part of the larger Genesis of Stuttering Project which is examining the behavior of preschool stutterers and their mothers over time and which has thus far followed approximately 20 dyads for up to 8 years. The subjects for this study were 20 preschool stuttering children, 15 male and 5 female, ages 2 years 10 months to 5 years 10 months and their mothers. We also had a control group of 20 preschool nonstuttering children and their mothers, matched for age, sex and the educational levels of the mothers.

The mothers were instructed to converse naturally for 10 minutes with their children while they were audio and video tape recorded. Their conversations were later scripted for an analysis which included the location and duration of all overlap. The 3 basic categories of overlap were subdivided into 15 behaviors to capture all variations, but the 3 major categories

remained the most meaningful. Additional analysis included exacting records of fluency behavior, speaking rate, linguistic length and complexity, and behavioral or linguistic intent. Scripts were standardized at 60 turns for mother and 60 turns for child. All records and analyses were rigidly controlled for accuracy. The data were then subjected to computer-aided statistical analysis to determine differences and correlations.

Results

There were 71 different measures of speech/language, fluency, overlap, and overlap with disfluency analyzed. Results for the two children groups and the two mother groups indicated that there were few significant differences among the 4 populations that were directly related to overlap variables. The major difference was that stuttering children demonstrated more stuttering than the the nonstuttering children, particularily during simultaneous starts and when they were the interruptee. These data (see Figure 1) are shown as frequencies, however I will be discussing most of the variables in terms of percentage. The most common form of overlap was "simultaneous start" (where no "blame" can be attributed), which occurred 5.2 times and accounted for 47% or almost 1/2 of the total overlap, whereas interruptor at 25% and interruptee at 28% occurred less frequently and were almost equally divided. Both groups of children demonstrated more disfluency during overlapped utterances than nonoverlapped utterances. And most disfluency and stuttering occurred "during" overlap rather than immediately preceding or

following it. There were no differences by sex.

Looking at the data in terms of proportions, for the stuttering children, 16% of their total utterances were overlapped, whereas 20% of the nonstuttering childrens' utterances were overlapped. If one were to say that stuttering evokes overlap, one would expect the stuttering children to have higher, not lower rates of overlap. (See Figure II) Further, in regard to the "increase" in rates of stuttering during overlap, the stuttering children had less than 3 times more stuttered words in overlapped contexts, but for the nonstuttering children the increase in stuttered words in overlapped contexts was actually more than 3 times that in nonoverlapped contexts. Thus the stuttering children, while they had a much higher absolute frequency of overall stuttering, had proportionately less increase in stuttering during overlap than did the nonstuttering children.

In looking at rates of stuttering just among the stuttering children at the "utterance or sentence" level instead of the word level, which is on the right side of Figure II, 29.1% of their overlapped utterances contained one or more stuttered words whereas 31% of their nonoverlapped utterances contained one or more stuttered words. Thus it appears that on a broader level, i.e., the sentence instead of the word, the stuttering rate was not increased by overlap.

For the mothers, while their overall behavior was remarkably similiar to each other, in regard to overlap behavior,

we found that mothers of stutterers interrupted their children's dysfluent (ST & DY) speech significantly (<.05) "less" than did the mothers of nonstuttering children and there was no difference between the mothers during fluent speech. Thus given the increased opportunity to interrupt disfluent speech, i.e., stuttering children had 5 times the total stuttered words of the nonstuttering children, the fact that they did not overlap more than mothers of nonstutterers suggests that disfluency does not evoke overlap. Furthermore, children were just as likely to interrupt their mothers as their mothers were to interrupt them.

There were also some important correlations (see Table I). For example, there was a low correlation of .05 between total stuttered words and total overlap, which means that a high rate of interruption was not necessarily associated with a high rate of stuttering. Also there was a moderate but significant correlation of .47 between speaking rate and overlap for the stuttering children which means that fast talking stuttering children also had high rates of overlap. This did not hold true for the nonstuttering children.

Normal dysfluencies were affected differently from stuttered disfluencies during overlap. For example, normal dysfluencies correlated higher (.35 & .41) with total overlap than did stuttering (.05 & .00) for both children groups.

In regard to the question of just how "interruptive" overlap actually was, the following emerged. First the duration of overlaps was usually very short. Jaffe and Feldstein (1970)

found that the average duration was only .4 seconds. We found that 60% of all overlaps involved only one word or less. As to location in the utterance, simultaneous starts, which is at the beginning of an utterance, was by far the most frequent type of overlap and was associated with both high rates of overlap and dysfluency. In regard to behavioral or linguistic intent, no one outstanding factor emerged, but topic change was extremely rare, and acknowlegements such as "uh huh" "ok" "yeah" constituted about one in ten of the overlaps. This is the category referred to as "back channel" in the literature.

Conclusions

It was concluded that the data did not support the contention that stuttering/dysfluency evokes overlap or interruption, but the data did support, with some qualification, the notion that overlap evokes stuttering/disfluency for both stuttering and nonstuttering children. The former finding is in variance with that of Meyers and Freeman (1985). This may reflect a "real" differnce or it may be due to the differences in severity between the subjects and the methods of data analysis in the two studies.

In the final analysis, it is clear that children are influenced by adult speech, both as a model and a direct intervention in their own speech behavior. Overlap is an important component of conversational speech and stuttering does increase as a result of it occurring. Even accidentally starting to speak at the same time as in simultaneous starts can result in fluency

problems for young children. While we must acknowledge that overlap is a "normal" process in conversation, for both adults and children, its effects on fluency must be considered in any clinical management for children who stutter. Our clinical judgment now indicates that overlap behavior among parents of children who stutter should be reduced as part of the theraputic process. Finally, further research should include experimental manipulation and analysis of overlap to validate these findings.

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FIGURE 1. FREQUENCY OF OVERLAP AND STUTTERING

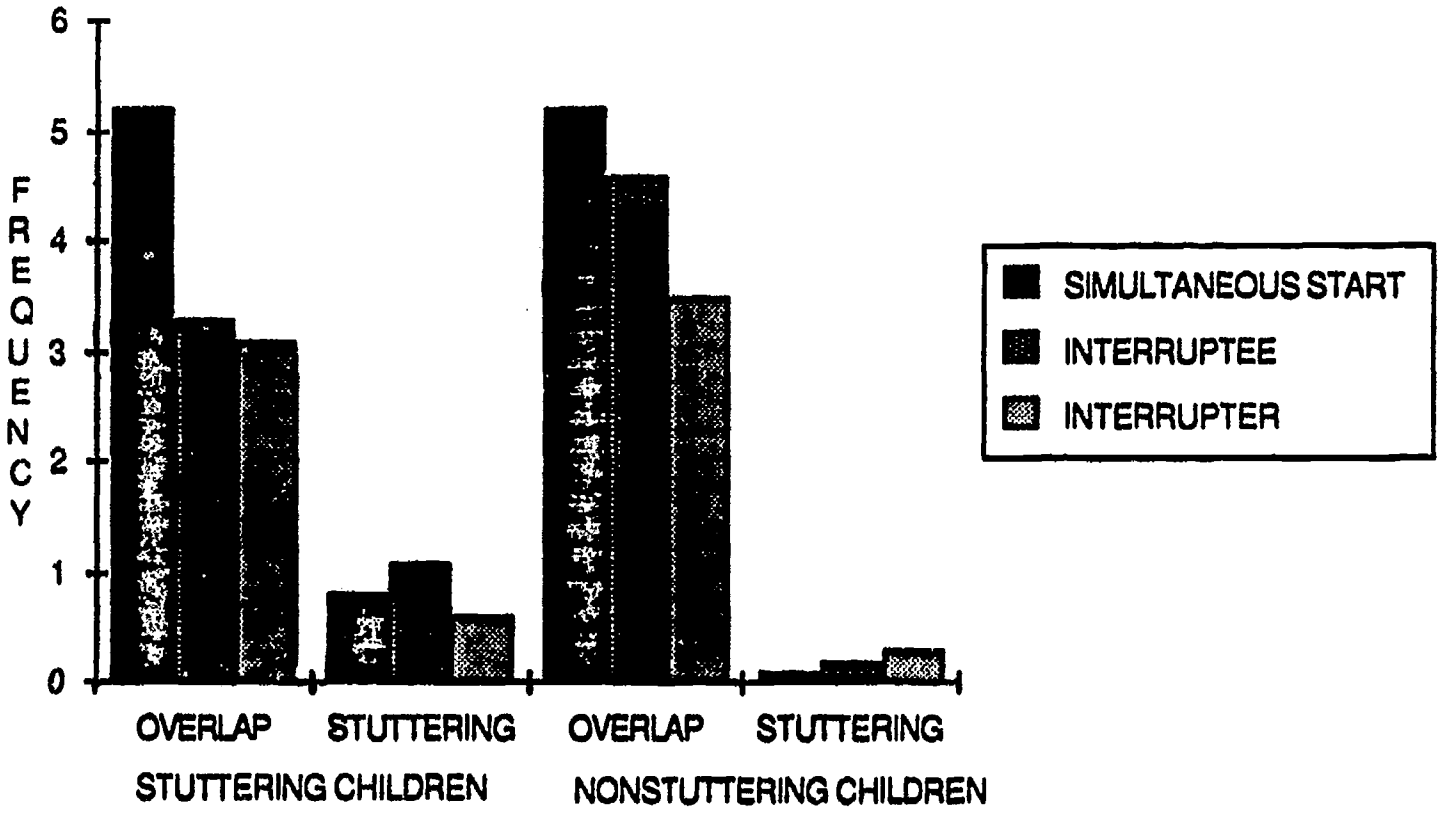

FIGURE 2. PERCENT OF STUTTERING PER OVERLAPPED AND NON OVERLAPPED WORDS AND UTTERANCES.

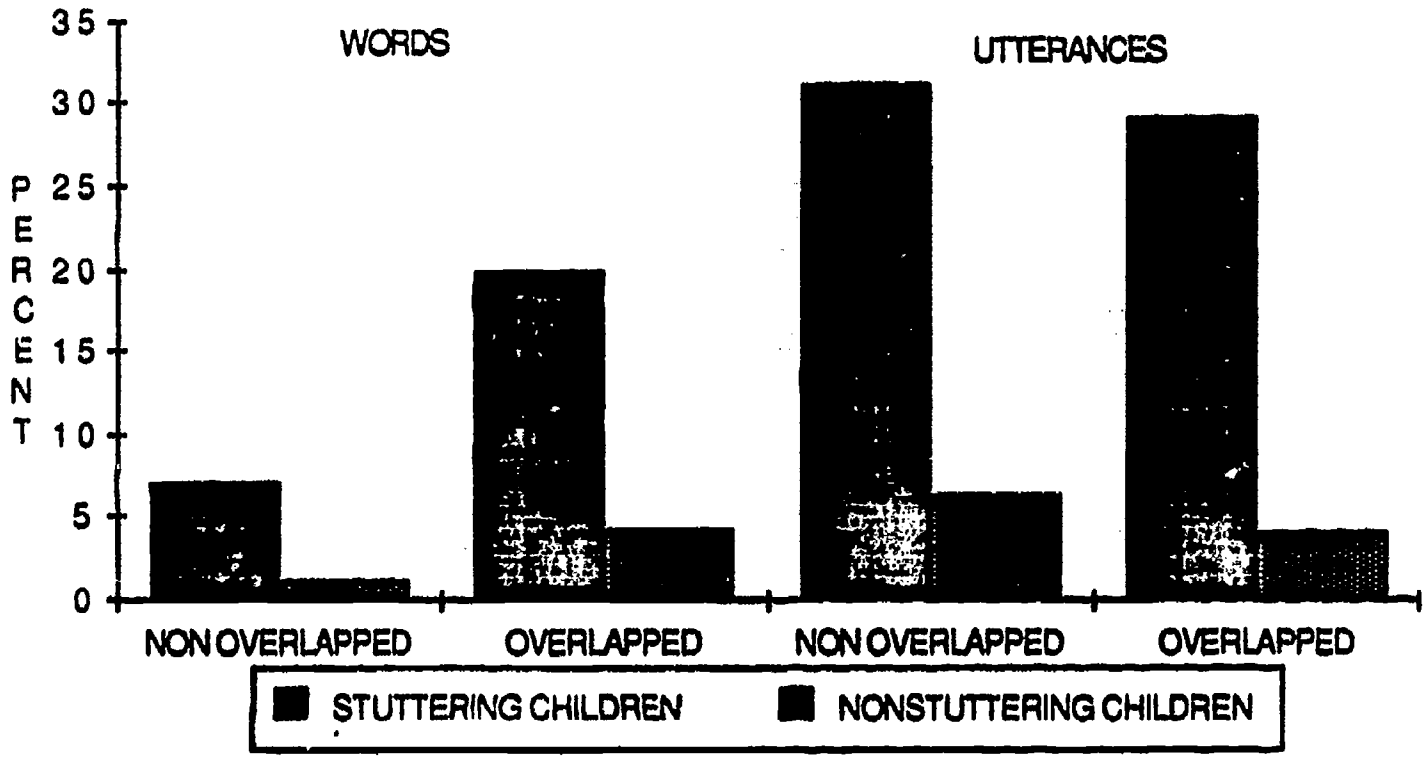

Table 1. Correlations

	Stuttering Children	Nonstuttering Children
Overlap & Stuttering	.05	.00
Overlap & Speaking Rate	.47*	.29
Overlap & Normal Disffuency	.35	.41

* Significant at .05